

REMARKS

As a preliminary matter, claims 16 and 17 stand objected to under 37 C.F.R. 1075(c) as being of improper dependent form, for failing to further limit the subject matter of a previous claim. Claim 16 has been cancelled without prejudice herein, rendering the objection thereto now moot. With respect to claim 17, however, Applicant traverses the objection in its entirety.

The Examiner does not appear to have fully considered all of the claim limitations from claims 14 and 17 (claim 17 depends from claim 14). The Examiner's remarks make it clear that the Examiner has not considered the fact that there are two separate cooling periods that are recited to be performed as part of the claimed alignment treatment step. Independent method claim 14 defines the first of these periods as the "cooling" period, and the second as the "kept" period. The cited limitations from claim 17 address only the kept period of the alignment treatment, and not the main cooling period. The Examiner appears to have misunderstood this distinction. Accordingly, the outstanding claim objection is traversed, and should be withdrawn.

As discussed further below, claim 16 has not been cancelled herein in response to the objection discussed above. Claim 16 has been cancelled only in conjunction with the amendments made to claim 1 also (discussed further below) that actually broaden the scope of this independent claim.

Claims 1-6 and 14-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (JP 2000-275685) in view of Bradshaw et al. (U.S.

5,061,047). Because this rejection is merely a repeat of the previous rejection, Applicant respectfully traverses the rejection again for at least the reasons of record, and as follows. Neither of the cited references, whether taken alone or in combination, recite a phase temperature width of 3°C or greater, as in claim 1 of the present invention, or the kept period of cooling, as in claim 14 of the present invention.

With respect to claim 1 of the present invention specifically, a *prima facie* of obviousness has not been established. Neither Shimizu nor Bradshaw teaches or suggests the claimed temperature width (not less than 3°C) of the cholesteric or chiral nematic phase of a phase sequence of the liquid crystal. The Examiner expressly acknowledges, in the first full paragraph on page 4 of the outstanding Office Action, that Shimizu fails to teach or suggest such features. The Examiner relies only upon Bradshaw for somehow teaching or suggesting these features of claim 1. Bradshaw, however, does not actually support the Examiner's assertions in this regard.

The text portion from Bradshaw that is still cited by the Examiner does not actually come from Bradshaw's disclosure, but instead from Bradshaw's claim 3. (Col. 14, lines 33-35). Bradshaw's claim 3, however, clearly does not define any temperature width of any phase, as the Examiner erroneously asserts. Claim 3 merely claims that a material is cooled at a particular rate within 5°C of the cholesteric/smectic *phase transition*. One skilled in the art is well apprised that the transition point between one phase and another does not define the width of either such phase.

The textural support for claim 3 of Bradshaw can be found at col. 2, lines 40-47 of the reference. This text portion clearly teaches that Bradshaw is only concerned with keeping close to the temperature *transition point* between the cholesteric and smectic phases. Bradshaw remains entirely silent regarding the actual temperature width of the cholesteric phase itself. Bradshaw is similarly silent regarding any temperature width to its chiral nematic phase. Accordingly, the Examiner has not identified this particular feature of claim 1 of the present invention in either prior art reference, as was required under Section 2143.03 of the MPEP.

In contrast, independent claim 1 of the present invention clearly recites that the temperature range of either of the cholesteric phase and the chiral nematic phase has a temperature width of not less than 3°C. Again, Applicant reminds the Examiner that claim 1 here defines an actual material property of the liquid crystal of the claimed device, and not merely a temperature range for a cooling step, as implied by the Examiner. To further emphasize this point, claim 16 has also been cancelled herein, in order to help avoid any confusion between the material properties of the device featured in claim 1, and the method steps featured in claim 14. Accordingly, because neither cited reference actually teaches or suggests the claimed phase temperature width of independent claim 1, the outstanding rejection of this claim (as well as its dependent claims 2-7) is respectfully traversed.

With respect to independent claim 14 specifically, Applicant traverses the rejection because neither of the cited references teaches or suggests two separate

temperature cooling periods as part of an alignment treatment step. More particularly, neither reference teaches or suggests that one of these two cooling periods is a kept, or holding, period. As discussed above with respect to the objection to claims 16 and 17, the Examiner appears to have not considered that the method of claim 14 recites two separate cooling periods as part of the alignment treatment step. Claim 14 defines these two periods as a “cooling” and a “kept” period. Claim 17 defines the “kept” period as also including some cooling, but at a much slower rate than the cooling period recited in claim 14. Neither of the cited references, alone or together, teaches or suggests all of these features.

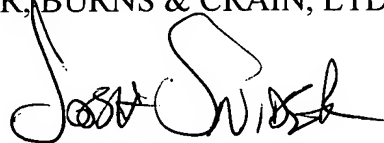
As also discussed above, the Examiner expressly acknowledges that Shimizu fails to teach or suggest the entire cooling process of the present invention. Again, the Examiner relies only on Bradshaw for support with respect to these features of claim 14 (and 17). Bradshaw, however, does not teach or suggest, nor does the Examiner actually assert, that two separate periods for cooling occur. More particularly, Bradshaw simply does not teach or suggest anything like the kept period recited in claim 14. Accordingly, for at least these reasons, the rejection of independent claim 14 (and its dependent claims 15 and 17) is respectfully traversed, and should be withdrawn.

For all of the foregoing reasons, Applicant submits that this Application, including claims 1-7, 14-15, and 17, is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

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November 6, 2006

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